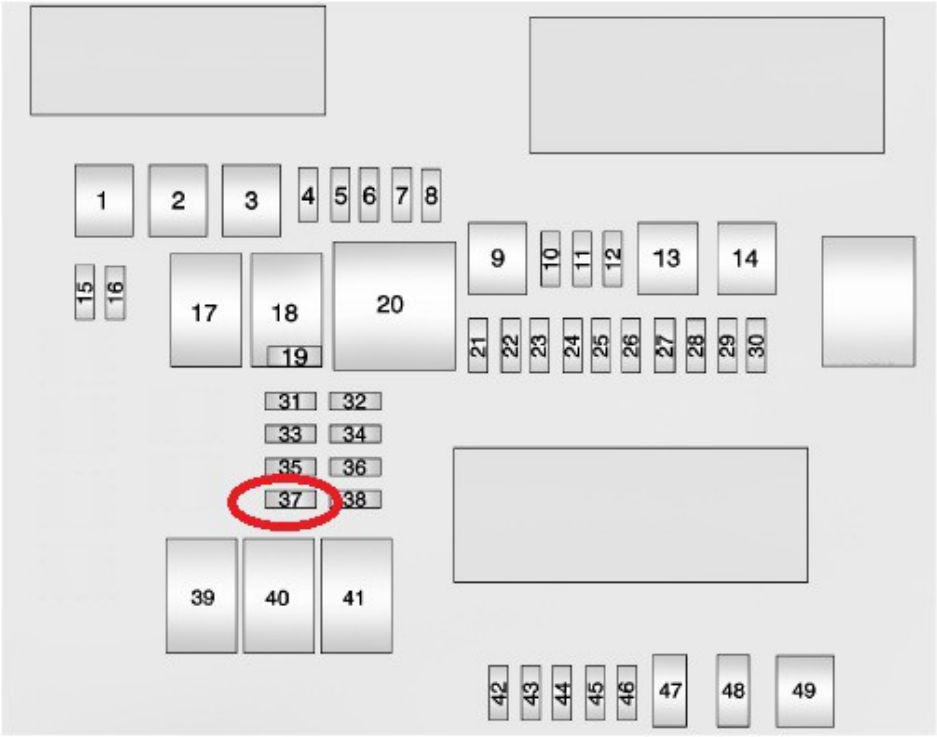
Cadillac ATS 2.0T Flex Fuel Sensor Installation

Components required (ATS E85 conversion kit can be purchased from Vermont Tuning):

Ethanol sensor
Ethanol sensor harness/pigtail
Female molex mx64 pin
12" flex fuel hose
GM style fuel quick connectors
Fused mini blade power tap (not supplied)
Tools (not supplied): Crimpers and electrical tools (soldering iron/gun, heat shrink tubing, 20 or 22 gauge wire.

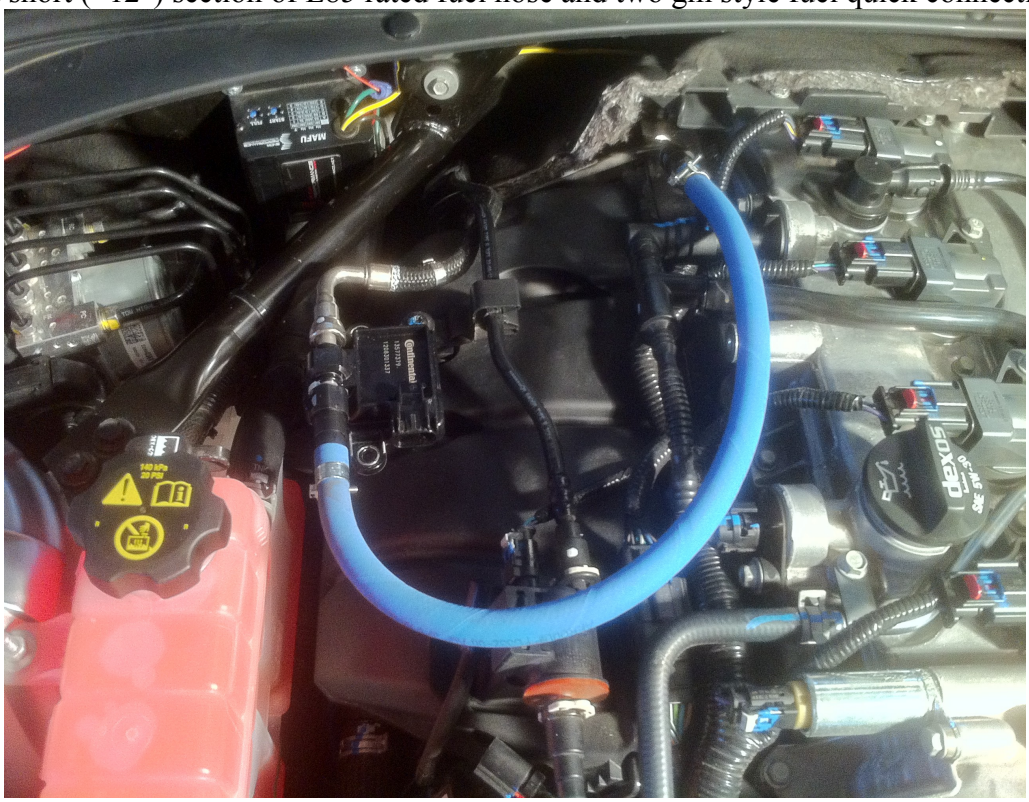
1) Remove the torx screw that secures the vacuum line to the intake manifold and install the flex fuel sensor as shown below:

2) Pull Fuse #37 from the rear fuse compartment to de-energize the low pressure fuel pump.

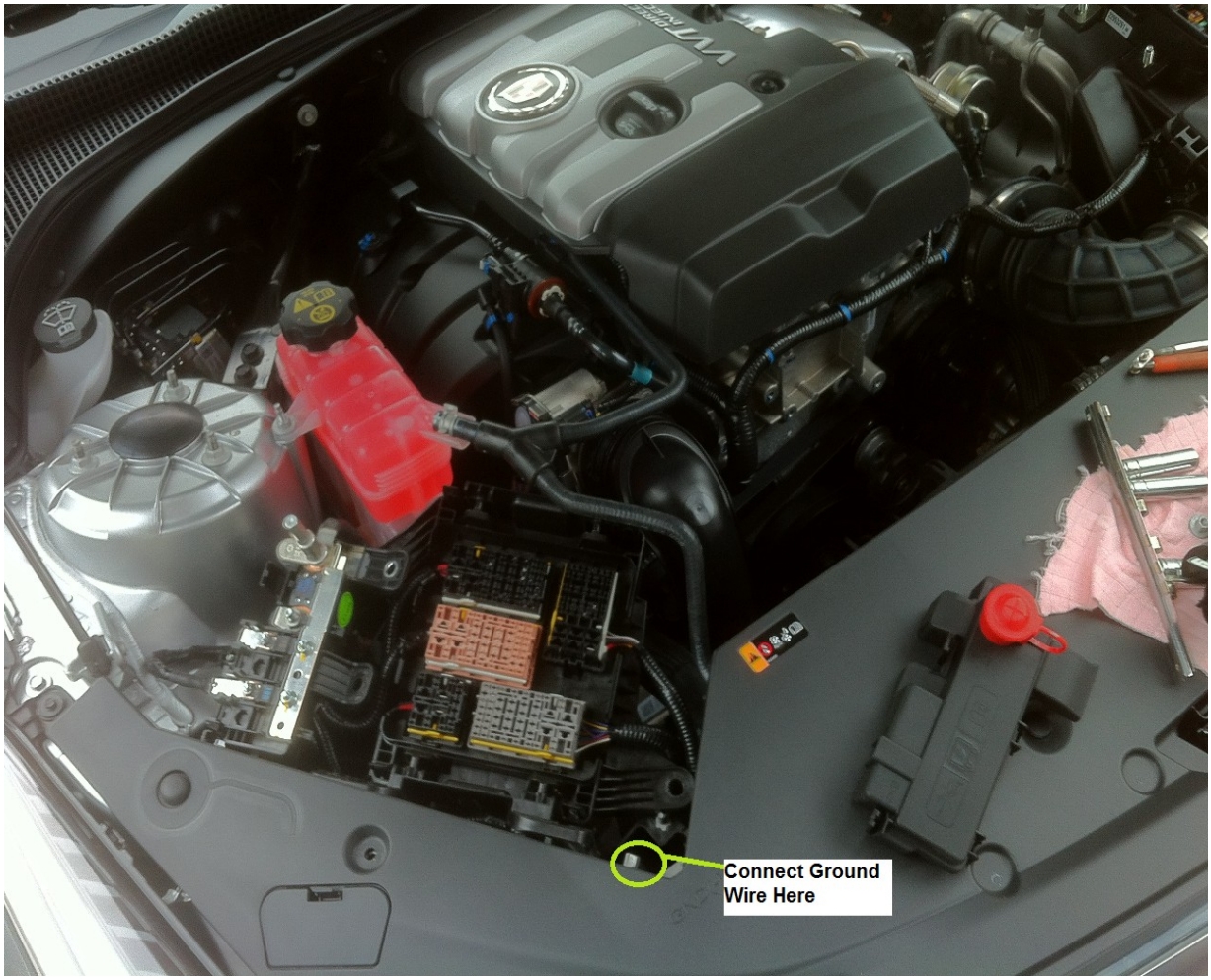


Start the engine and let it run for ~30 seconds or until it stalls to releive the fuel pressure between the low pressure pump and the high pressure pump.

Using a fuel disconnect tool, remove the fuel line from the fuel rail and connect to the flex fuel sensor as shown using a short (~12") section of E85 rated fuel hose and two gm style fuel quick connections.

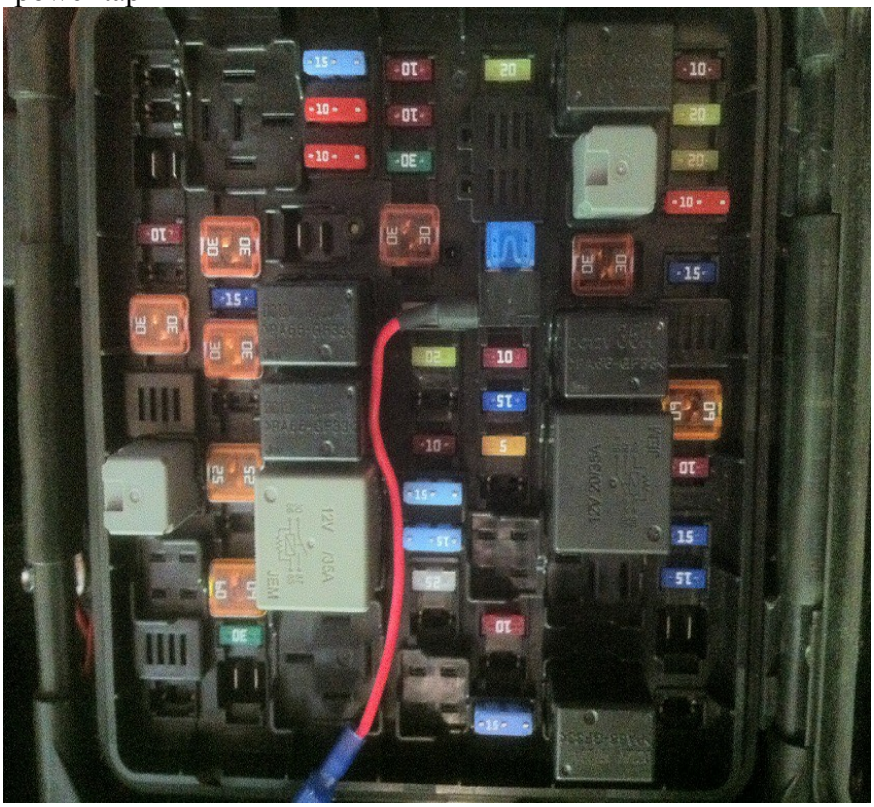


The signal wire from the flex fuel sensor will be connected to ECM harness X1 (Black/Blue) pin #38. The +12V power can be pulled from any switched relay – I suggest taping fuse #47 in the engine bay electrical center and connecting the ground to the post near the electrical center:

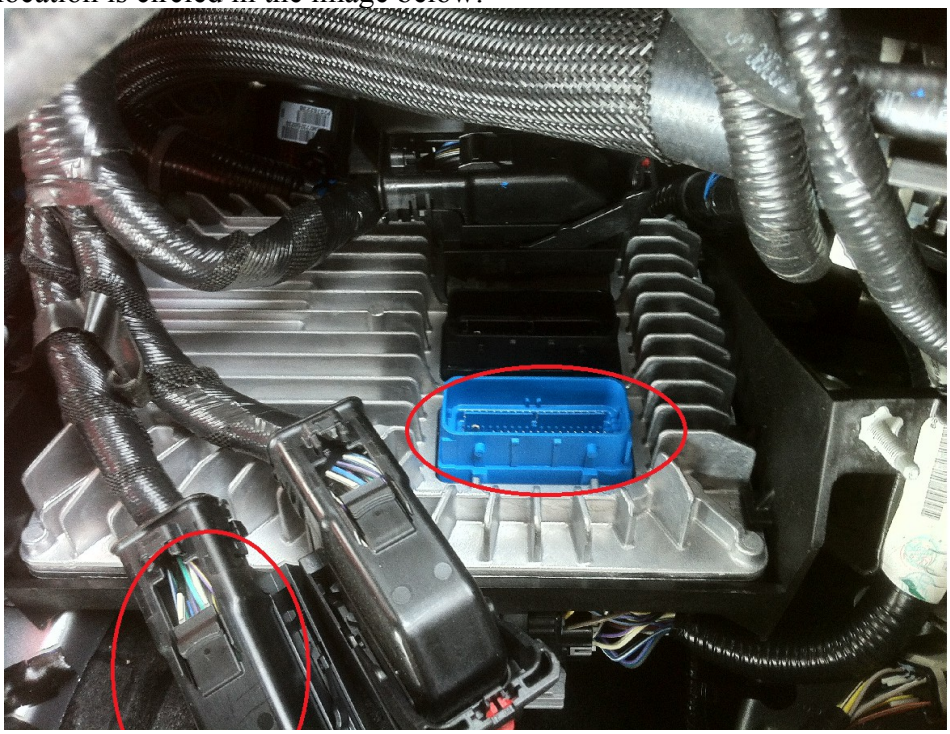


You can remove the engine electrical center as shown above to allow easier access to the ECM harness, but it is not necessary.

Fuse 47 Location for power tap

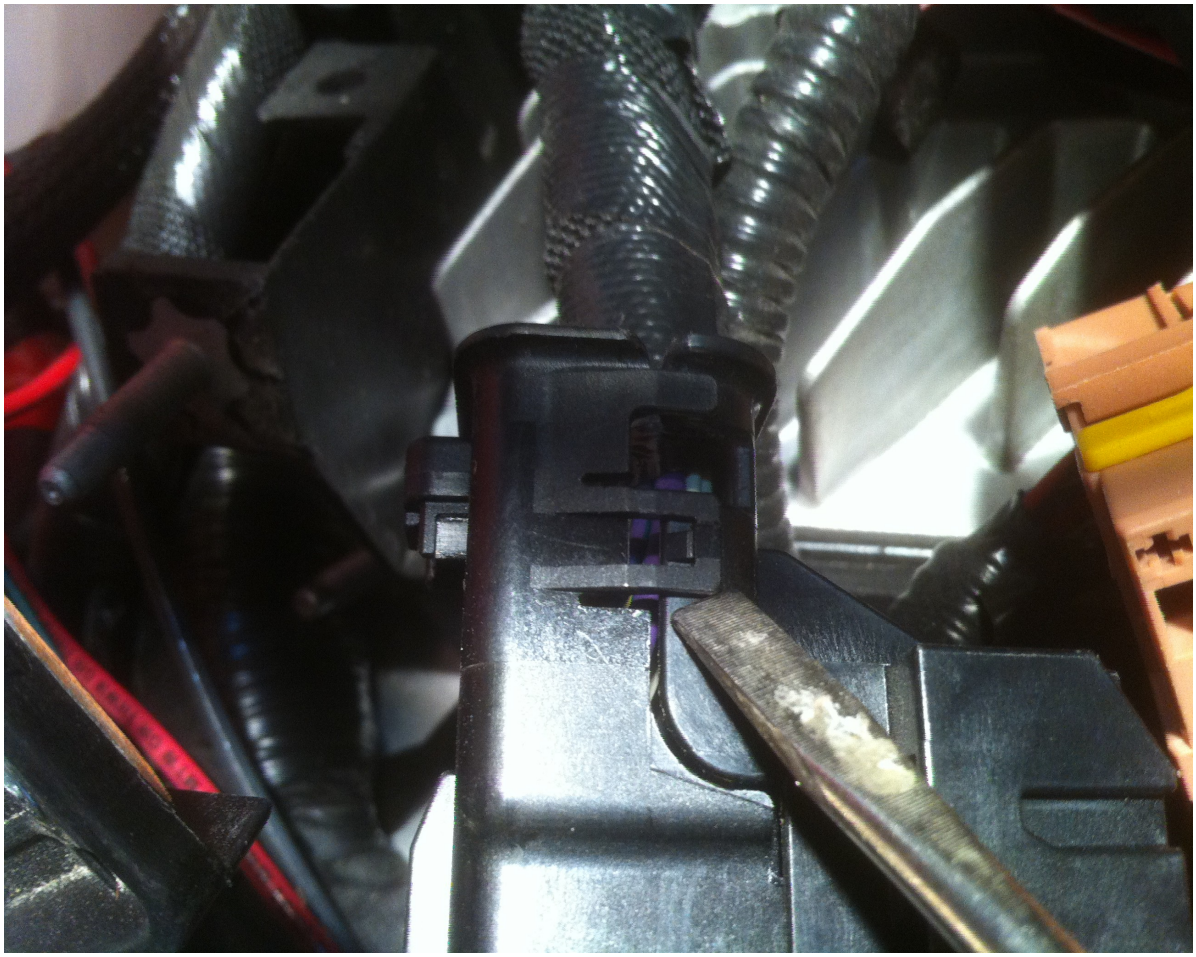


The X1 harness location is circled in the image below:

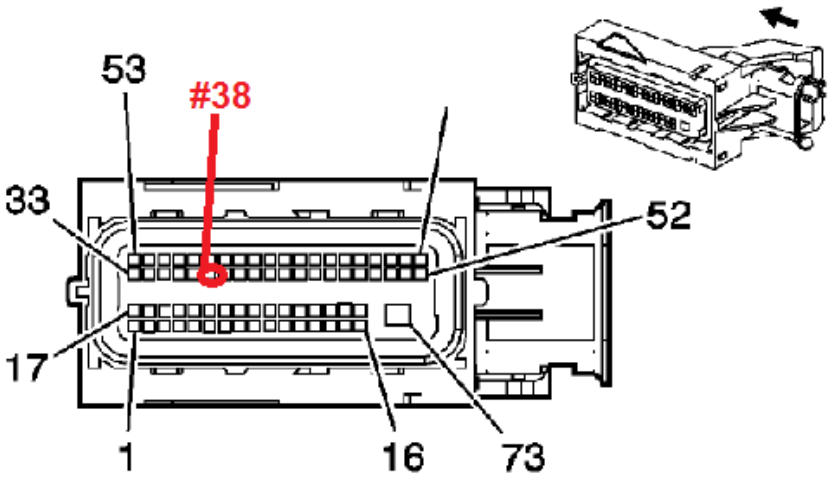


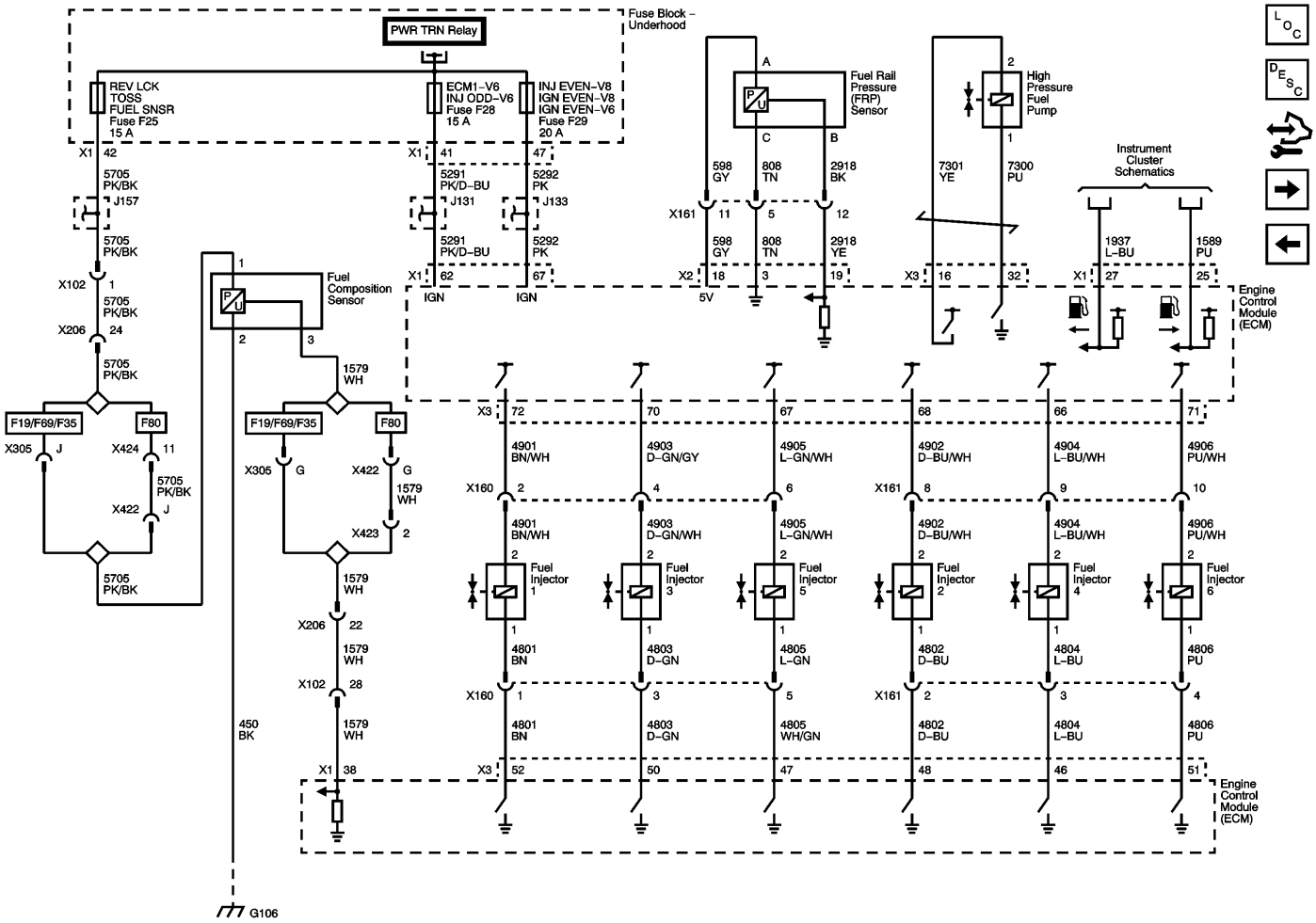
You will need to open the haness to insert the new pin (molex mx64 femal) into position #38. cut the zip tie as shown:

Then open the connector as shown:



Once the connector is open you can remove the white plug at position #38 and insert the new wired pin:





The pigtail connections to the flex fuel sensor are shown in the diagram above and are labeled on the sensor output. The wire identifications are below:

Flex Fuel Sensor Pigtail Wires:
White = Sensor signal output (connect to ECM harness X1 pin38 using the supplied molex pin)
Black/White stripe = Ground (-)
Black/Pink stripe = Power supply (+)